



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/949,988	10/14/97	YUNG	K PD-96315

PM92/0708

PATENT DOCKET ADMINISTRATION  
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EXAMINER

DINH, T

ART UNIT

PAPER NUMBER

3644

DATE MAILED:

07/08/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
08/949,988

Applicant(s)

Yung et al

Examiner

T. Dinh

Group Art Unit  
3644



☒ Responsive to communication(s) filed on Apr 12, 1999

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-19 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-19 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on Apr 12, 1999 is ☐ approved ☒ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

PETER M. POON  
PRIMARY EXAMINER

*pmP 7/1/99*

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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## DETAILED ACTION

### *Drawings*

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 4/22/99 have been disapproved because they introduce new matter into the drawings. 37 CFR 1.121(a)(6) states that no amendment may introduce new matter into the disclosure of an application. The original disclosure does not support the showing of box 24, 26, 28, and 30 in figure 3.
2. The amendment filed 4/12/99 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the limitation of orienting the satellite constellation without changing the relative configuration of the desired satellites within the satellite constellation. In addition, the generating command signals based on tilted trajectory .

Applicant is required to cancel the new matter in the reply to this Office action.

***Claim Rejections - 35 USC § 103***

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-19, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Draim in view of Westerlund or Fowell

Draim discloses that a satellite constellations covering a specific geographical area but is silent on the tilting the trajectory to reorient the constellations to cover a second coverage. However, Westerlund or Fowell teaches that tilting satellites to "reorient" the satellite constellation to cover various geographical areas are well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tilted the trajectory of the satellite constellations of Draim as taught by Westerlund or Fowell to maximize the coverage area of the desired geographical area.

As for the determining the "period of rotation" and determining the time coverage of the constellation based on the period of rotation and the trajectory of the desired satellite, please note that these are inherent steps that one skilled in the art would take so that the desired positions of the satellite can be accomplished to prevent the satellite from being lost and to maximize the coverage.

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As for the programming of the computers on the satellite or sending command signals to the satellite and using simulations, please note that in today's day and age, these topics are well known to be used in the aerospace field.

As for the equations and the rotation matrices, please note that these are basic, inherent equations that one skilled in the art would have used to determine the period of rotations.

As for the newly added limitation of the amended claims, please note that "relative configuration" is a broad term. The interpretation of "relative configuration" here can be how the solar panels or antennas are employed with respect to the satellites. In addition relative configuration can be how it is shaped. Obviously when there is a tilt in the trajectory, the shape doesn't change, which meets the limitation of the claims.

***Response to Amendment***

As for the applicant's argument about the "second coverage based on time dependent coverage" as cited in claims 1 and 10, please note that time dependent coverage are inherent steps that anyone skilled in the art would have acquired or know before sending up expensive satellites into space and in orbit. If the time coverage is not known, the satellite will be lost or useless. Therefore, it would have been obvious to one skilled in the art to obtain the time dependent coverage and the second coverage to make sure that the satellite operates as it is designed to do.

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*Conclusion*

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

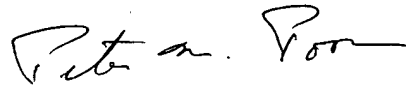
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is (703) 308-2798. The examiner can normally be reached on Monday thru Friday from 8 A.M. to 5 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Poon, can be reached on (703) 308-2574.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



**PETER M. POON**  
**PRIMARY EXAMINER**

7/1/99

T. Dinh

6/30/99